

**Patent Application  
Attorney Docket No. D/A3099**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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**CERTIFICATE OF EXPRESS  
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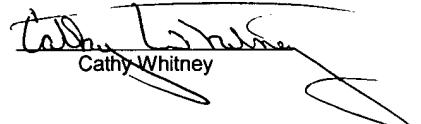
Art Unit: not yet assigned

Confirmation No.: not yet assigned

Title: SPACED BIASED ROLL CHARGING  
MEMBER HAVING CLIPPED AC INPUT VOLTAGE

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Cathy Whitney

Mail Stop Patent Application  
Commissioner for Patents  
P.O. Box 1450  
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Sir:

**PRELIMINARY AMENDMENT**

**AMENDMENTS TO THE SPECIFICATION:**

Please replace paragraph [0009] with the following amended paragraph.

[0009] Figure 4 is a graphical representation of the clipped AC input voltage applied to the charging apparatus of the present invention and invention.

Please replace paragraph [0013] with the following amended paragraph.

[0013] Referring now, more particularly, to the bias roll charging system 10, a conductive roll member 14 is spaced from the photoreceptor member 12 having an air gap of 20 to 50 microns therefrom. The conductive roll member 14 is axially supported on a conductive core or shaft 20, situated transverse to the direction of relative movement of the photoreceptor member 12. In a preferred embodiment, the conductive roll member 14 is provided in the form of a deformable, elongated roller supported for rotation about an axis 16 and is preferably comprised of a polymer material such as, for example, Neoprene, E.P.D.M. rubber, Hypalon rubber, Nitrile rubber, Polyurethane rubber (polyester type), Polyurethane rubber (polyether type), Silicone rubber, Viton/Fluorel rubber, Epichlorohydrin rubber, or other similar materials having a D.C. volume a DC volume resistivity in the range of 10<sup>3</sup> to 10<sup>7</sup> ohm-cm after suitable compounding with carbon particles, graphite or other conductive additives. These materials are chosen for their ease in manufacturability and compoundability, compoundability, as well as wearability and economy.

Please replace paragraph [0016] with the following amended paragraph.

[0016] The charging operation involves the application of the A.C.the AC voltage signal from the bias charging system 10 to the photoconductive surface of photoreceptor member 12, which creates a voltage potential across the photoreceptor to ground 37. Charge carriers from the charge generating layer 32 migrate into the bulk of the charge transport layer 32 the upper surface 36 of the photoconductive material, where the charge will be trapped. The thin dielectric overcoating 34 is desirable on either the conductive roll member 14 or the photoreceptor member 12 for a variety of reasons, including protection of the surfaces of conductive roll member 14 or photoreceptor member 12, or for a current limiting action which may allow the use of low resistivity rollers, or for photoreceptor or roll member surface property control.In control. In the embodiment shown in the drawings, overcoating 34 is provided on the upper surface of the photoreceptor. Alternatively, an overcoating may be provided on the outer surface of bias conductive roll member 14 for the same effect.

Please replace the Abstract of the Disclosure with the following amended Abstract of the Disclosure.

#### ABSTRACT OF THE DISCLOSURE

An apparatus for applying an electrical charge to a member to be charged, including: a contact roll member situated spaced from a surface of the member to be charged; and means for applying an electrical bias to the contact roll member, the electrical bias including an oscillating voltage signal which is clipped to remove a selected polarity component thereof to supply a single polarity oscillating input drive voltage to the contact roll member.